



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|-------------------------|------------------------|
| 10/763,015 | 01/22/2004 | Peter Ashwood Smith | 43049-0012 | 6501 |
| 23577 7590 04/10/2008 RIDOUT & MAYBEE SUITE 2400 ONE QUEEN STREET EAST TORONTO, ON M5C3B1 CANADA | | | EXAMINER HO, DUC CHI | |
| | | | ART UNIT 2619 | PAPER NUMBER |
| | | | MAIL DATE 04/10/2008 | DELIVERY MODE PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/763,015

Applicant(s)

ASHWOOD SMITH ET AL.

Examiner

Duc C. Ho

Art Unit

2619

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 8-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 13-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date: _____

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 is indefinite. It is unclear as to how do a router, a primary router and a virtual router physically or functionally interconnected?

Claim 1 is ambiguous. It is unclear as to how does router control in line 3 physically or functionally connect to routing elements?

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 1-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Brahim (US 2003/0147402).

Regarding claim 1, Brahim discloses technique for implementing a multi-service packet and optical/TDM virtual private cross-connect.

a switch fabric (a VPXC (virtual private cross-connect) 510-fig.5 is a cross-connect device, therefore, it is inherently a switch fabric since it could switch signals from one site to another site, see 0024);

a matrix of switching and routing elements, at least some of said elements being interconnected by said switching fabric (the apparatus 510-fig.5 includes other devices such as routers, switches elements, wherein at least some of the routers and switches inherently interconnected by the switching fabric of the cross-connect, see 0025, 0037); *and*

router control providing control for said switching fabric, wherein said apparatus has both cross-connect and routing functionality (each router inherently provides control for the switching fabric of the cross-connect, the apparatus VPXC 510-fig.5 includes both cross-connect and routing functionality).

Regarding claim 2, the apparatus VPXC-fig.3 can support GMPLS, see 0031.

Regarding claim 3, the apparatus VPXC 510-fig.5 includes IP-based layer virtual router, see 0037.

Regarding claim 4, the apparatus VPXC 510-fig. 5 is able to provide layer -3VPN service.

Regarding claim 5, the apparatus VPXC 510-fig.5 is able to perform layer-3 forwarding via a network processor.

Regarding claim 6, the apparatus VPXC 510-fig.5 should be able to exist both physically and virtually within a particular network.

Regarding claim 7, the apparatus VPXC 510-fig.5 comprising routers capable of forwarding packets according to a label switching algorithm.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brahim, in view of figure 1, paragraph 0035-0041, of the Admitted Prior Art of the instant application, hereinafter referred to as the APA.

Regarding claim 13, in Brahim the VPXC 512-fig.5 may include devices such as a router which may function as a primary router. The virtual router VR-A 520-fig.5 is able to perform

virtual router functions, wherein the virtual router 520 should be able to run GMPLS, See 0034-0037.

Brahim, however, does not teach using the router to direct an electrical signal to a virtual router.

The APA in figure 1, par. 0039, discloses a synchronous transport signal-48. (STS is an example of a signal that could be sent through the SONET/SDH switch 10-fig.1). This type of signal is an electrical signal. The signal can be sent along different paths through the matrix to the external ports to external elements.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the electrical signal as taught by the APA with Brahim. The suggestion/motivation for doing so would have been to provide the router a capacity in which it could direct the STS signal to a virtual router, i.e. VR520-fig.1 of Brahim enabling the VR to be connected to VPN 50-fig.1 via an IP link for VPN services.

Regarding claim 14, the router of Brahim is capable of directing the electrical signal from the virtual router 520-fig.5.

Regarding claim 15, the router of Brahim is able to control a subset of a switching fabric of the VPXC 510-fig.5 (see switching fabric in claim 1).

Regarding claim 16, the virtual router 520-fig.5 of Brahim is able to control another subset of the switching fabric.

Regarding claim 17, the virtual router 520-fig.5 of Brahim should be able to support a combination of at least two of layer-2 switching Ethernet, layer-2 switching MPLS, and layer-3 forwarding via a network processor, see 0034-0037.

Regarding claim 18, the virtual router 520-fig.5 of Brahim is inherently embedded in a label switch router.

Regarding claim 19, the router of Brahim is able to run GMPLS.

Regarding claim 20, in the APA the electrical signal is STS-48, see 0039.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Zadikian et al.(US 2006/0251419); Chu et al.(US 2004/0255028) are cited to show generalized virtual router, which is considered pertinent to the claimed invention.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc Ho whose telephone number is (571) 272-3147. The examiner can normally be reached on Monday through Thursday from 7:30 am to 6:00 pm.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel, can be reached on (571) 272-2988.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-2600.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2619

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent Examiner

/Duc C Ho/

Primary Examiner, Art Unit 2619

4-08-08